

SPECIAL FOREST PRODUCTS

A Southern Strategy for Research
& Technology Transfer



USDA Forest Service

A cooperative effort between the Southern Research Station
and the Southern Region

Science Update SRS-006

Special Forest Products: A Southern Strategy for Research & Technology Transfer

Problem Statement

Increasing levels of collection of special forest products (SFPs) have triggered concerns about the long-term social, ecological and economic sustainability of the resources from which these products originate. At this time, there is too little information to assess the current situation and to make informed decisions about managing the forest resources for these products.

This document outlines four strategic goals and actions designed to advance the knowledge base needed to manage forest resources for special forest products. The guide is intended to provide strategic direction for Southern Research Station (SRS) research on the ecological, economic, and social sustainability of market and nonmarket special forest products, the inventory and monitoring of these products on public and private forest lands, and technology transfer efforts in Region 8, State and Private Forestry, and the National Forest System.

Goal 1: Provide the knowledge and information needed to maintain viable populations of SFP species.

- Assemble existing information and databases.
- Categorize and prioritize species that could be inventoried and monitored on a broad scale across all ownerships.
- Develop the best inventory methodology for individual species or groups.
- Examine demographic processes of species at the highest risk.
- Determine effects of urbanization and habitat fragmentation.
- Assess ecological impacts of harvesting on special forest products and associated species.
- Determine sustainable harvest practices and levels for selected special forest products.

- Assess ecological interactions between fire, forest management activities, and recreation and their effects on special forest products.
- Develop landscape models to estimate abundance and distribution.
- Identify sites suitable for restoration and enhancement of SFP populations.

Goal 2: Provide knowledge and information to ensure the economic sustainability of SFP markets.

- Define the scope and scale of established and emerging markets.
- Determine the value and volume of the major commercial special forest products.
- Track and monitor market demand by ecological region.
- Examine strategies for adding value (e.g. processing, certification, green labels, organic agroforestry).
- Estimate the scale of nonmarket uses (e.g., personal, recreational, subsistence).
- Determine the economic impact to local people and communities.
- Examine cultural diversity and demographics of collectors and markets.

Goal 3: Provide information on human interactions with special forest products; incorporate an understanding of the human dimension into policy, planning, and management decisions.

- Identify collectors and the functional and livelihood uses of the special forest products they collect.
- Identify environmental justice and civil rights issues that may arise in management and decisionmaking.
- Assemble a list of the public regulations and requirements that apply to special forest products.
- Examine compliance with regulations, and the implications for management strategies and law enforcement.

- Identify sources of traditional ecological knowledge and establish models to integrate both traditional and scientific knowledge into decisionmaking while respecting intellectual property rights.
- Examine relationships between economic conditions and SFP collection.

Goal 4: Promote public understanding of SFP uses, users, conservation, and future potential.

- Determine methodologies to create public understanding of special forest products.
- Develop education and outreach programs for harvesters, land managers, school groups, and others.
- Establish a process for collaborative planning that includes collectors, other agencies, and other interested parties.

Technology Transfer

Achieving these goals depends on developing a proactive technology transfer program that supports and complements the efforts of State and Private Forestry, the National Forest System, and other public and private partners. The following recommended actions apply to all four goals and are designed to increase the flow of information among researchers, managers, users, and harvesters.

- Communicate research results in formats that can be easily used by forest managers and other partners with a range of constituencies.
- Develop interactive Web-based communication systems that provide timely, accessible, and practical information.
- Develop an integrated technology transfer program that addresses the needs of all clients and partners, including non-English speaking publics.

What are Special Forest Products?

Special forest products (SFPs) are materials derived from biological and genetic resources collected in forests and grasslands for personal, educational, commercial and scientific uses. Also commonly referred to as non-timber forest products, they consist of plants, parts of plants, and other biological material harvested from within and on the edges of natural, manipulated or disturbed forests, and may include fungi, mosses, lichens, herbs, vines, shrubs, or trees. Many different parts of plants are harvested, including roots, tubers, leaves, bark, twigs and branches, fruit, sap and resin, as well as the wood.

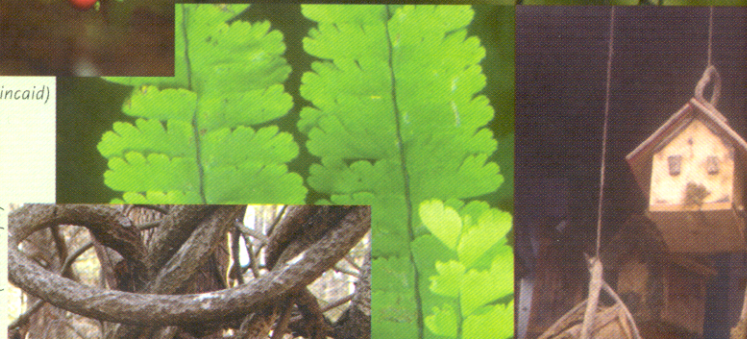
Culinary products harvested from the forest include mushrooms, ferns, and the fruits, leaves, and roots of many plant species. Perhaps the most important of the Southeast's culinary forest products are ramps (*Allium tricoccum*), which are widely eaten as a spring tonic and are often the mainstay of special events and fundraisers. Other edibles—including fiddleheads, poke salad, black walnuts, blueberries, raspberries, blackberries, persimmons, and acorns—are also commonly gathered, consumed and sold throughout the southeastern United States.

Some of the more important **wood-based products** include sassafras (*Sassafras albidum*) stems for walking sticks, willow (*Salix spp.*) stems for furniture, and cypress (*Taxodium distichum*, *T. ascendens*) knees used for carvings. **Floral products** include crooked wood (*Lyonia spp.*) gathered from the forests of Florida and used in dried flower arrangements, grapevine (*Vitis spp.*) and smokevine (*Aristolochia macrophylla*) used to make wreaths and baskets, and galax (*Galax urceolata*) gathered for the national and international floral industries.



Ginseng (Lori Kincaid)

Ginseng (Lori Kincaid)





Wood-based products (Tom Hammett)

forests of Appalachia are used domestically, as well as exported to the European floral industry.

The Appalachian hardwood region is also the principal source of many plants used as **medicinal and dietary supplements**. SRS researcher Jim Chamberlain has identified more than 50 plants with medicinal value currently collected from the hardwood forests of the southeastern United States. American ginseng (*Panax quinquefolius*), the most popular medicinal plant harvested from the area, is collected from seven of the region's 13 States. The Southeast produced more than half of the total wild ginseng harvested between 1978 and 1998, with four States (Virginia, Kentucky, Tennessee and North Carolina) supplying

Galax (Thomas Barnes)

approximately 47 percent of all forest-harvested ginseng.

The Appalachian hardwood region is the principal source of many other medicinal plants, including false unicorn (*Chamaelirium luteum*), black cohosh (*Actaea (Cimicifuga) racemosa*), and bloodroot (*Sanguinaria canadensis*). The pine forests of Florida are also the primary world source for saw palmetto (*Serenoa repens*), a medicinal plant used to treat prostate problems.



Maidenhair fern (Bill Lea)



Fiddlehead fern (Bill Lea)



Cultural and Economic Importance

Though no formal estimates have been made of the value of the various SFP markets in this region, the following examples illustrate the economic importance of these products:

- In 1996, more than \$2.5 million was paid to collectors of eastern black walnut (Jim Jones, personal communications).¹
- In 1997, a company in rural southwest Virginia specializing in pine roping had sales in excess of \$1.5 million (Hauslohner 1997).
- In 1999, retail sales of saw palmetto exceeded \$34 million (Blumenthal 2000).
- Based on 2001 prices, the wholesale value of ginseng harvested from southern forests exceeds \$18.5 million (unpublished research by Jim Chamberlain).
- The Graham County Rescue Squad in western North Carolina generates approximately 90 percent of its budget from an annual ramp festival (unpublished research by Jim Chamberlain).

Rural families of the South have a long history and deep cultural connections with special forest products. Many collectors learned from their ancestors, who, in turn, learned from Native Americans which plants to collect and how to use them. Many of the people digging ramps in North Carolina today can trace their heritage back three generations to the late 1700s, when their ancestors moved into the mountains and learned from the Cherokee the importance of these spring delicacies. This traditional ecological knowledge, built through generations of gathering, tending, using, and trading, can be found with other special forest products as well.

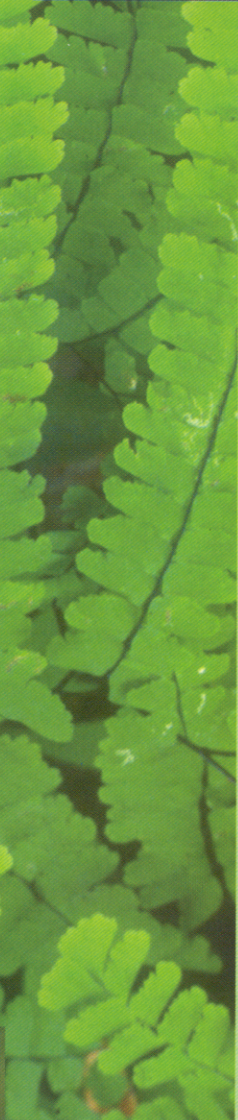
People harvest special forest products for both market and non market reasons. Before the European settlers entered the southern forests, Native Americans traded these products

Ramp bulb closeup (Cary Kauffman)





Maidenhair fern (Bill Lea)



Wood-based products (Tom Hammett)

settlers gathered these products for subsistence as well as for income. Gathering is not limited to local people; recent immigrants and urban dwellers who enjoy "getting out in the woods" also gather. Migrants to the Southeast have started collecting galax (*Galax urceolata*), Fraser fir (*Abies fraseri*), and other floral products to supplement their income. Unlike other public interests (e.g., mountain biking, hunting and fishing, wilderness hiking), however, there are no organizations that represent SFP collectors in discussions about forest management.

Awareness about the scope and scale of SFP collection has grown tremendously over the last decade. At the same time, concern for the ecological sustainability of the resources from which these products originate has increased, as well as consideration for the economic sustainability of the people who are involved in the trade and use of special forest products. Unfortunately, the information and knowledge needed to determine if SFP collection activities are socially, economically or ecologically sustainable is still lacking.

¹ Jones, Jim. 1998. Personal communication. Vice President, Hammons Products Company, Stockton, Missouri.



Harvested ramps (David White)

Ramp patch (Gary Kauffman)



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